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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,722	09/02/2005	Andrew Robert Davids	SER-102	6962

23557 7590 06/15/2007

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EXAMINER	
KIM, ALEXANDER D	

ART UNIT	PAPER NUMBER
1656	

MAIL DATE	DELIVERY MODE
06/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,722	DAVIDS ET AL.	
	Examiner	Art Unit	
	Alexander D. Kim	1656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *63-78* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *63-78* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/27/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *Notice to Comply*.

DETAILED ACTION

Application Status

1. In response to the previous Office action, a written restriction requirement (mailed on 03/07/2007), Applicants filed a response received on 04/09/2007. By virtue of a preliminary amendment filed on 04/09/2007, claims 1-62 have been canceled; and claims 63-78 has been amended. Thus, claims 63-78 are pending in this instant case.

Election

2. Applicant's election without traverse of Group 50 (corresponding to SEQ ID NO: 100, newly added Claims 63-78), is acknowledged.

Claims 63-78 will be examined herein.

Priority

3. The instant application is a 371 filing of the International Application No. PCT/GB03/03862 filed on 09/06/2003. The Examiner notes that the requirements of national stage entry of the instant application had been completed (note assigned U.S. filing date) within 30 months of the earliest claimed priority date; the related international application includes both a search report and a preliminary examination report.

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) to a foreign patent application 0220770.2 (United Kingdom) filed in English on 09/06/2002.

Information Disclosure Statement

4. Information disclosure statement (IDS) filed on 02/27/2006 has been reviewed, and its references have been considered as shown by the Examiner's initials next to each citation on the attached copy.

Oath/Declaration

5. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: The foreign priority must be disclosed in the Oath/Declaration. Appropriate correction is required.

Objections to the Specification

6. The specification is objected to because of the following informalities:

a) The specification is objected to because the title is not descriptive of the claims. A new title is required that is clearly indicative of the invention to which the claims are drawn (see M.P.E.P. § 606.01). The examiner suggests the following new title, for example: ---A germinal center kinase (GCK).---

b) The Abstract is objected to for not completely describing the disclosed subject matter (see M.P.E.P. § 608.01(b)). It is noted that in many databases and in foreign countries, the Abstract is crucial in defining the disclosed subject matter,

thus, its completeness is essential. The Examiner suggests the inclusion of the name of the polypeptide (INSP082 which is a germinal center kinase) and the source of the polypeptide (human) for completeness.

Compliance with Sequence Rules

7. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 C.F.R. э 1.821(a)(1) and (a)(2). However, this application fails to fully comply with the requirements of 37 C.F.R. 1.821 through 1.825; Applicants' attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990).

Figure 2, 4, 6-9 contains polypeptide or nucleic acid sequences without appropriate SEQ ID NOs. Appropriate correction is required.

If the noted sequences are in the sequence listing as filed, Applicants must amend the specification to identify the sequences appropriately by SEQ ID NO. If the noted sequences are not in the sequence listing as filed, Applicants must provide (1) a substitute copy of the sequence listing in both computer readable form (CRF) and paper copy, (2) an amendment directing its entry into the specification, (3) a statement that the content of the paper and CRF copies are the same and, where applicable, include no new matter as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.821(b) or 1.825(d), and (4) any amendment to the specification to identify the sequences appropriately by SEQ ID NO.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 63-78 is rejected under of 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claims 63 and 70 recite the limitation "the activity of a germinal center kinase". It is unclear if the claim is limited to the one particular activity of a germinal center kinase. Clarification is required.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 63, 66-70, 73-78 are rejected under 35 U.S.C. § 112, first paragraph, written description, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 63, 66-69, 70 and 73-76 recite the limitation "over its full length to the amino acid sequence---" (emphasis added). As it is written, the term "its full length" is interpreted as the sequence within the isolated polypeptide wherein the specified full length can be as small as two consecutive amino acid from the SEQ ID NO: 100, for example. The interpretation above is also supported in view of specification disclosing many polypeptide comprising a fragment of SEQ ID NO: 100. Thus, the recited % identity only applies to the amino acids that is chosen to be compared to the SEQ ID NO: 100, which the % identity will be almost always 100% because any protein would have two consecutive amino acid within or from SEQ ID NO: 100. It is noted that Claims 64-65 and 71-72 have been interpreted as to require the entire amino acid sequence of SEQ ID NO: 100. Given the broad and reasonable interpretation and in view of disclosed SEQ ID NOs, the claims are interpreted as to encompass any isolated polypeptide comprising any amino acid sequence that is a certain % identity to any portion of the amino acid sequence within SEQ ID NO: 100, or comprising any fragment of SEQ ID NO: 100, as small as two consecutive amino acid; wherein said isolated polypeptide has any activity of any germinal center kinase. For example, any polypeptide having two consecutive amino acid fragment of SEQ ID NO: 100 and having immunogenic activity of said fragment, for example, is encompassed by the claims.

The Court of Appeals for the Federal Circuit has recently held that a "written description of an invention involving a chemical genus, like a description of a chemical species, 'requires a precise definition, such as be structure, formula [or] chemical

name,' of the claimed subject matter sufficient to distinguish it from other materials." *University of California v. Eli Lilly and Co.*, 1997 U.S. App. LEXIS 18221, at *23, quoting Fiers v. Revel, 25 USPQ2d 1601, 1606 (Fed. Cir. 1993) (bracketed material in original). To fully describe a genus of genetic material, which is a chemical compound, applicants must (1) fully describe at least one species of the claimed genus sufficient to represent said genus whereby a skilled artisan, in view of the prior art, could predict the structure of other species encompassed by the claimed genus and (2) identify the common characteristics of the claimed molecules, e.g., structure, physical and/or chemical characteristics, functional characteristics when coupled with a known or disclosed correlation between function and structure, or a combination of these (paraphrased from *Enzo Biochemical Inc. v. Gen-Probe Inc.* (CAFC (2002) 63 USPQ2d 1609).

The instant specification teach the polypeptide SEQ ID NO: 100 which is a germinal center kinase or its composition with carrier. However, the breadth of claim includes any isolated polypeptide comprising any amino acid sequence with a certain % identity to any portion of the amino acid sequence of SEQ ID NO: 100, or any amino acid sequence having any fragment of SEQ ID NO: 100, as small as two consecutive amino acid; wherein said isolated polypeptide has any activity (i.e., immunogenic activity, for example). The prior art teaches a polypeptide encompassed by claimed genus as disclosed in Nakano et al. (2000). The specification discloses a protein, "termed INSP081, INSP082 and INSP091" (see top of page 1 in the specification and sequence listing, page 67-93). Thus, the prior art and the instant specification do not describe genus of isolated polypeptide with any activity of a germinal center kinase. An

instant specification and prior arts do not describe claimed isolated polypeptide sufficiently to represent the correlation between the structure and function of claimed genus that is a polypeptide with any activity of germinal center kinase. The instant specification and the prior art cannot describe the structure of a very broad claimed genus and one skilled in the art would not be in possession of the full scope of claimed genus of the instant specification.

10. Claims 63, 66-70, 73-78 are rejected under 35 U.S.C. 112, first paragraph, scope of enablement, because the specification, while being enabling for a method for producing a polypeptide of SEQ ID NO: 100, does not reasonably provide enablement for any polypeptide with any germinal center kinase.

The specification does not enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and use of the invention commensurate in scope with these claims.

The factors to be considered in determining whether undue experimentation is required are summarized *In re Wands* 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988). The Court in Wands states: "Enablement is not precluded by the necessity for some experimentation such as routine screening. However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' " (Wands, 8 USPQ2d 1404). Clearly, enablement of a claimed invention cannot be predicated on the basis of quantity of experimentation required to make or use the invention. "Whether undue experimentation is needed is not a single,

simple factual determination, but rather is a conclusion reached by weighing many factual considerations." (Wands, 8 USPQ2d 1404). The factors to be considered in determining whether undue experimentation is required include: (1) the quantity of experimentation necessary, (2) the amount or direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. While all of these factors are considered, a sufficient amount for a *prima facie* case are discussed below.

The nature of the invention is drawn to a certain germinal center kinase or its composition having the polypeptide of SEQ ID NO: 100. However, the breadth of claims includes any isolated polypeptide comprising any amino acid sequence with a certain % identity to any portion of the amino acid sequence of SEQ ID NO: 100, or any fragment of SEQ ID NO: 100, as small as two consecutive amino acid; wherein said isolated polypeptide has any activity (i.e., immunogenic activity, for example). Applicants teach a germinal center kinase termed INSP081, INSP082 and INSP091 and a certain portion of the said kinase. However, applicants disclose no direction or guidance on how to make and use any other isolated polypeptide encompassed by the instant claims; thus the specification and prior art fail to describe how to make and use the claimed genus sufficiently. Therefore, it is unpredictable for any polypeptide comprising any portion within the SEQ ID NO: 100 having any activity of a germinal center kinase to be used for the development of compounds that are effective in the treatment and/or diagnosis of disease" as disclosed in the instant specification. Thus,

the level of skill is high by the instant genus claims for one skilled in the art to make and use the full scope of claims. For all of the above reason, it would require undue experimentation necessary for a claimed genus polypeptide described above.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 63-78 are rejected under 35 U.S.C. §101 because the claimed invention lacks patentable utility. Claims 63-78 are drawn to a polypeptide comprising a germinal center kinase, SEQ ID NO: 100, for example, which can be used to diagnosis and treatment of a disease.

According the instant specification discloses, page 21, top, "In a tenth aspect, the invention provides for the use of a polypeptide of the first aspect of the invention as a Germinal Center Kinase (GCK), preferably as a NIK-like kinase and more preferably as a NIK-like embryo specific kinase (NESK). Suitable uses of the polypeptides of the invention as Germinal Center Kinases (GCK), preferably as NIK-like kinases and more preferably as NIK-like embryo specific kinases (NESK) include use as a regulator of cellular growth, metabolism or differentiation, use as part of a receptor/ligand pair and use as a diagnostic marker for a physiological or pathological condition."

However, the instant specification does not disclose any significant utility of SEQ ID NO: 100 or any other polypeptide; thus a usage of claimed polypeptide for diagnostic

marker, treatment or prevention of disease (see 1st paragraph, page 1 of instant specification) lacks utility.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20. Claims 63-78are rejected under 35 U.S.C. 102(b) as being anticipated by Nakano et al. (2000, The Journal of Biological Chemistry, vol. 275, page 20533-20539, as cited in IDS).

The instant claims are drawn to any isolated polypeptide comprising any amino acid sequence that is 95, 96, 97, 98 or 99 % identity to any portion of the amino acid sequence within SEQ ID NO: 100, or comprising any fragment of SEQ ID NO: 100, as small as two consecutive amino acid; wherein said isolated polypeptide has any activity of any germinal center kinase.

Nakano et al. teach a polypeptide NESK, a member of germinal kinase, comprising an amino acid sequence wherein said sequence of its full length has 100% identical to a corresponding sequence of SEQ ID NO: 100 as shown in the SEQ Alignment in the attachment. The polypeptide of Nakano et al. comprising the MAGP (very first 4 consecutive amino acid sequence) wherein the full length of MAGP is 100% identical to the corresponding amino acid sequence of SEQ ID NO: 100. The protein

NESK of Nakano et al. was isolated as evidenced by the cell lysed with "400 ul of lysis buffer" and centrifuged as disclosed in Experimental Procedures, top of right column, page 20534. The water used to make the lysis buffer by Nakano et al. meets the limitation of pharmaceutical carrier and as an adjuvant. Thus, the polypeptide of Nakano et al. meets the limitation of Claims 63-78.

Conclusion

12. Claims 63-78 are rejected for the reasons identified in the numbered sections of the Office Action. Applicants must respond to the objections/rejections in each of the numbered sections in the Office action to be fully responsive in prosecution.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D. Kim whose telephone number is (571) 272-5266. The examiner can normally be reached on 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr can be reached on (571) 272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alexander Kim
June 5, 2007

RICHARD HUTSON, PH.D.
PRIMARY EXAMINER

SEQ Alignment

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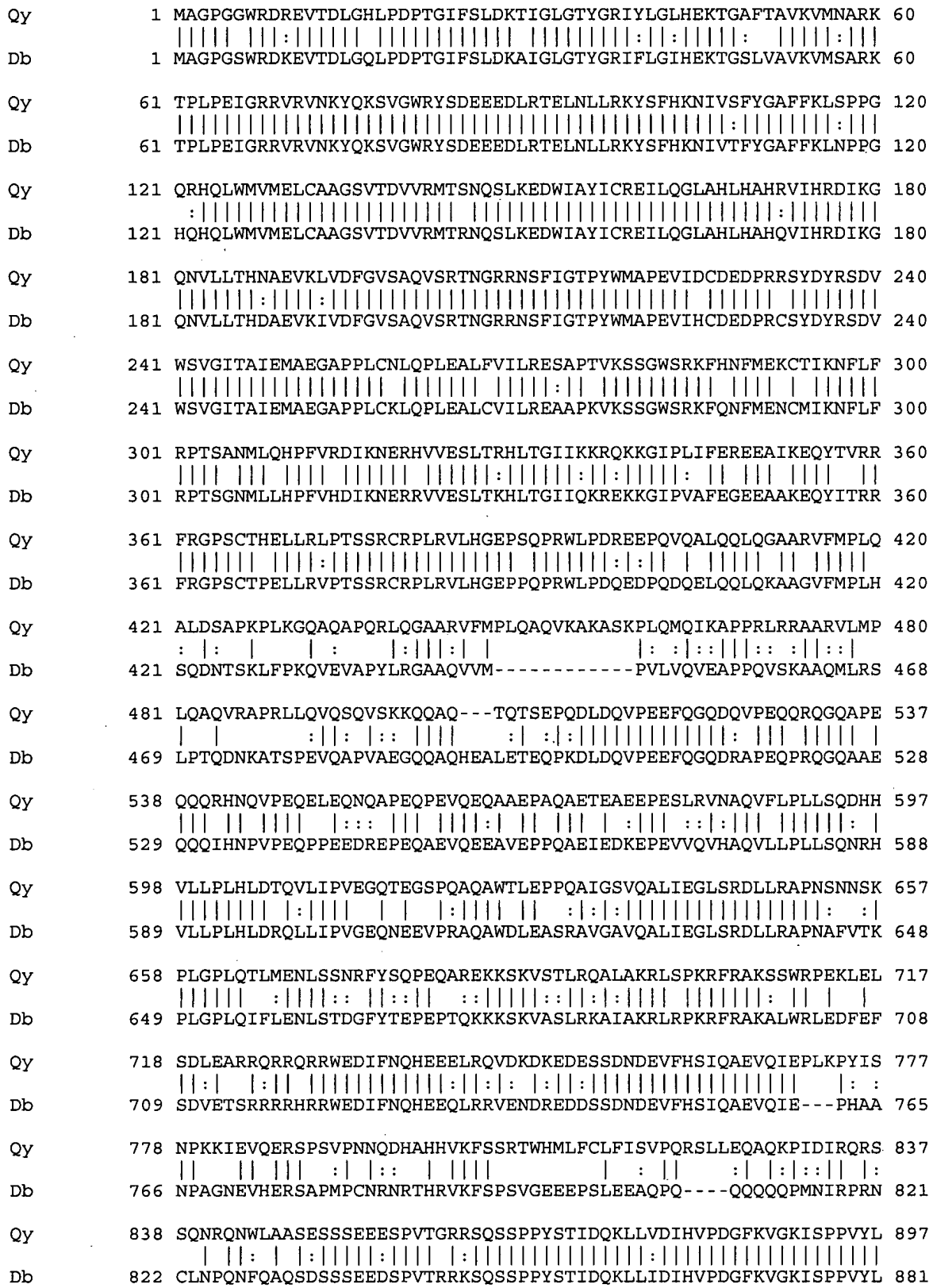
RESULT 3
Q9R0G8_MOUSE
ID   Q9R0G8_MOUSE   PRELIMINARY;   PRT;  1455 AA.
AC   Q9R0G8;
DT   01-MAY-2000, integrated into UniProtKB/TrEMBL.
DT   01-MAY-2000, sequence version 1.
DT   02-MAY-2006, entry version 32.
DE   Nck-interacting kinase-like embryo specific kinase.
GN   Name=Nrk; Synonyms=NESK;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
OC   Muroidea; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=20347139; PubMed=10801798; DOI=10.1074/jbc.M001009200;
RA   Nakano K., Yamauchi J., Nakagawa K., Itoh H., Kitamura N.;
RT   "NESK, a member of the germinal center kinase family that activates
RT   the c-Jun N-terminal kinase pathway and is expressed during the late
RT   stages of embryogenesis.";
RL   J. Biol. Chem. 275:20533-20539(2000).
CC   -!- CATALYTIC ACTIVITY: ATP + a protein = ADP + a phosphoprotein.
CC   -!- SIMILARITY: Belongs to the Ser/Thr protein kinase family.
CC   ---------------------------------------------------------------------
CC   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
CC   Distributed under the Creative Commons Attribution-NoDerivs License
CC   ---------------------------------------------------------------------
DR   EMBL; AB035267; BAA87066.1; -; mRNA.
DR   HSSP; Q13153; 1F3M.
DR   Ensembl; ENSMUSG00000052854; Mus musculus.
DR   MGI; MGI:1351326; Nrk.
DR   GO; GO:0004713; F:protein-tyrosine kinase activity; RCA.
DR   GO; GO:0005083; F:small GTPase regulator activity; RCA.
DR   GO; GO:0007256; P:activation of JNKK activity; IDA.
DR   GO; GO:0006468; P:protein amino acid phosphorylation; RCA.
DR   InterPro; IPR001180; Citron.
DR   InterPro; IPR011009; Kinase_like.
DR   InterPro; IPR000719; Prot_kinase.
DR   InterPro; IPR008271; Ser_thr_pkin_AS.
DR   InterPro; IPR002290; Ser_thr_pkinase.
DR   Pfam; PF00780; CNH; 1.
DR   Pfam; PF00069; Pkinase; 1.
DR   ProDom; PD000001; Prot_kinase; 1.
DR   SMART; SM00036; CNH; 1.
DR   SMART; SM00220; S_TKc; 1.
DR   PROSITE; PS00107; PROTEIN_KINASE_ATP; 1.
DR   PROSITE; PS50011; PROTEIN_KINASE_DOM; 1.
DR   PROSITE; PS00108; PROTEIN_KINASE_ST; 1.
KW   ATP-binding; Kinase; Nucleotide-binding;
KW   Serine/threonine-protein kinase; Transferase.
SQ   SEQUENCE   1455 AA;  163675 MW;  C9B24D1F207775AD CRC64;

  Query Match             65.1%;  Score 5102.5;  DB 2;  Length 1455;
  Best Local Similarity   66.6%;  Pred. No. 1.1e-207;
  Matches 1015;  Conservative  158;  Mismatches  257;  Indels   95;  Gaps   14;
```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Db 1 MAGPGSWRDKEVTDLGQLPDPTGIFSLDKAIGLGTYGRIFLGIHEKTGSLVAVKVMSARK 60
Qy 61 TPLPEIGRRVRVNKYQKSVGWRYSDEEEDLRTELNLLRKYSFHKNIVSFYGAFFKLSPPG 120
Db 61 TPLPEIGRRVRVNKYQKSVGWRYSDEEEDLRTELNLLRKYSFHKNIVTFYGAFFKLNPPG 120
Qy 121 QRHQLWMVMELCAAGSVTDVVRMTSNQSLKEDWIAYICREILQGLAHLHAHRVIHRDIKG 180
Db 121 HQHQLWMVMELCAAGSVTDVVRMTRNQSLKEDWIAYICREILQGLAHLHAHQVIHRDIKG 180
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Db 181 QNVLLTHDAEVKIVDFGVSAQVSRTNGRRNSFIGTPYWMAPEVIHCDEDPRCSYDYRSDV 240
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Db 241 WSVGITAIEMAEGAPPLCKLQPLEALCVILREAAPKVKSSGWSRKFQNFMENCMIKNFLF 300
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Qy 361 FRGPSCTHELLRLPTSSRCRPLRVLHGEPSQPRWLPDREEPQVQALQQLQGAARVFMPLQ 420
Db 361 FRGPSCTPELLRVPTSSRCRPLRVLHGEPPQPRWLPDQEDPQDQELQQLQKAAGVFMPLH 420
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Qy 481 LQAQVRAPRLLQVQSQVSKKQQAQ---TQTSEPQDLDQVPEEFQGQDQVPEQQRQGQAPE 537
Db 469 LPTQDNKATSPEVQAPVAEGQQAQHEALETEQPKDLDQVPEEFQGQDRAPEQPRQGQAAE 528
Qy 538 QQQRHNQVPEQELEQNQAPEQPEVQEQAAEPAQAETEAEEPESLRVNAQVFLPLLSQDHH 597
Db 529 QQQIHNPVPEQPPEEDREPEQAEVQEEAVEPPQAEIEDKEPEVVQVHAQVLLPLLSQNRH 588
Qy 598 VLLPLHLDTQVLIPVEGQTEGSPQAQAWTLEPPQAIGSVQALIEGLSRDLLRAPNSNNSK 657
Db 589 VLLPLHLDRQLLIPVGEQNEEVPRAQAWDLEASRAVGAVQALIEGLSRDLLRAPNAFVTK 648
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Db 709 SDVETSRRRRHRRWEDIFNQHEEQLRRVENDREDDSSDNDEVFHSIQAEVQIE---PHAA 765
Qy 778 NPKKIEVQERSPSVPNNQDHAHHVKFSSRTWHMLFCLFISVPQRSLLEQAQKPIDIRQRS 837
Db 766 NPAGNEVHERSAPMPCNRNRTHRVKFSPSVGEEEPSLEEAQPQ----QQQQQPMNIRPRN 821
Qy 838 SQNRQNWLAASESSSEEESPVTGRRSQSSPPYSTIDQKLLVDIHVPDGFKVGKISPPVYL 897
Db 822 CLNPQNFQAQSDSSSEEDSPVTRRKSQSSPPYSTIDQKLLIDIHVPDGFKVGKISPPVYL 881

```
Qy       898 TNEWVGYNALSEIFRNDWLTPAPVIQPPEEDGDYVELYDASADTDGDDDDESNDTFEDTY 957
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Db       882 TNEWVGYNALSEIFWDDWIMPTRPARPPEEDGDYVELYDADANANG-DEEVANGAYEDPR 940

Qy       958 DHANGNDDLDNQVDQANDVCKDHDDDNNKFVDDVNNNYYEAPSCPRASYGRDGSCKQDGY 1017
             | |||:||::||:||||   : |         ||  |:  | : |||:| | |  |
Db       941 DGANGHDDMNNQLDQANGY-EGHGAAGYN-GGDVGGNHGAAFNGPRANYPRAGILKNGHN 998

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             ||      |:  :| : |  ||  || |  || |:   | || |: |     :  | ||
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Qy      1078 ASNAI--DSGAAPSAPDHESD-------------------NKDISESSTQSDFSANHSS 1115
              : |   |    |     |||                   |     |||   |    ||
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Qy      1116 PSKGSGMSADANFASAILYAGFVEVPEESPKQPSEVNVNPLYVSPACKKPLIHMYEKEFT 1175
             | :||   :| :: |                                |::|:|||:|:
Db      1114 P-RGSDFGSDISYNS---------------------------------PILHVYEKDFS 1138

Qy      1176 SEICCGSLWGVNLLLGTRSNLYLMDRSGKADITKLIRRRPFRQIQVLEPLNLLITISGHK 1235
             ||: |||||||||||||:|:||||||||||:| |||:|||||||||:| ||||||||| |
Db      1139 SEVYCGSLWGVNLLLGTQSHLYLMDRSGKAEIVKLIKRRPFRQIQVVEQLNLLITISGKK 1198

Qy      1236 NRLRVYHLTWLRNKILNNDPESKRRQEEMLKTEEACKAIDKLTGCEHFSVLQHEETTYIA 1295
             ||||||||:||||||||||:||:||: | | |||||||||| ||||||||||||||||
Db      1199 NRLRVYHLSWLRNKILNNDPKSKKRQKAMRKKEEACKAIDKLIGCEHFSVLQHEETTYIA 1258

Qy      1296 IALKSSIHLYAWAPKSFDESTAIKVFPTLDHKPVTVDLAIGSEKRLKIFFSSADGYHLID 1355
             :|:||||||:|||||||||:|||||||| | ||:|||||:||||.||||||||:|||:||
Db      1259 VAVKSSIHLFAWAPKSFDENTAIKVFPTRDLKPLTVDLAVGSEKTLKIFFSSANGYHIID 1318

Qy      1356 AESEVMSDVTLPKNPLEIIIPQNIIILPDCLGIGMMLTFNAEALSVEANEQLFKKILEMW 1415
             |||||||:|||| |        |::|||||||:|:||: |||| | |||||| ||||::|
Db      1319 AESEVMSEVTLPNN--------NVVILPDCLGLGVMLSLNAEAASEEANEQLLKKILDVW 1370

Qy      1416 KDIPSSIAFECTQRTTGWGQKAIEVRSLQSRVLESELKRRSIKKLRFLCTRGDKLFFTST 1475
             ||||||:|||||:| ||| ||||||||||| :||:|||||||||||||| ||||:|| ||
Db      1371 KDIPSSVAFECTKRITGWDQKAIEVRSLQSTILENELKRRSIKKLRFLCARGDKMFFAST 1430

Qy      1476 LRNHHSRVYFMTLGKLEELQSNYDV 1500
             | | ||||| |:|||||||  :| |
Db      1431 LSNDHSRVYLMSLGKLEELHRSYAV 1455
```

Notice to Comply	Application No. 10/526,722	Applicant(s) Davids et al.	
	Examiner Alexander Kim	Art Unit 1656	

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).

☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☒ 7. Other: Figure 2, 4, 6-9 contains polypeptide or nucleic acid sequences without appropriate SEQ ID NOs.

Applicant Must Provide:

☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☒ An initial or substitute paper copy of the "Sequence Listing", **as well as an amendment specifically directing its entry into the application**.

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216 or (703) 308-2923
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